

a cooling device for cooling the subject placed on the susceptor to a predetermined temperature;

a supply section for adding a reactive gas to an activated plasma generating gas activated by the plasma generation section and caused to flow toward the subject cooled by the cooling device,

wherein an activated reactive gas is generated by adding the reactive gas to the activated plasma generating gas, and the activated reactive gas is reacted with a surface layer of the subject cooled by the cooling device; and

a heating device for heating a product produced by a reaction between the activated reactive gas and the surface layer of the subject,

wherein the product is removed from the subject by heating the product by the heating device.

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38. (Amended) The surface treatment apparatus according to claim 32, wherein the heating temperature is not lower than 100°C.

39. (Amended) The surface treatment apparatus according to claim 32, wherein the heating device is heat radiation means provided above the subject to be treated.

40. (Amended) The surface treatment apparatus according to claim 32, wherein the heating device is a heating lamp provided above the subject to be treated.

41. (Amended) The surface treatment apparatus according to claim 32, further comprising a lifting device for lifting the subject to be treated, to move the subject away from the susceptor when heating the product with the heating device.

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